

REMARKS

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 1, 2 and 5-14 are now present in the application. Claim 1 has been amended. Claims 13 and 14 have been added. Claims 3 and 4 have been cancelled. Claims 1, 5 and 10 are independent. Reconsideration of this application, as amended, is respectfully requested.

Claim Rejections Under 35 U.S.C. §§ 102 & 103

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Oh, U.S. Patent No. 6,303,040. Claims 1-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh in view of Nokonov, U.S. Patent No. 6,522,812, and further in view of Xu, U.S. Patent Application Publication No. US 2003/0207215. Claims 1-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Blomquist, U.S. Patent No. 6,768,839, in view of Nokonov and Xu. These rejections are respectfully traversed.

In light of the foregoing amendments to the claims, Applicants respectfully submit that this rejection has been obviated and/or rendered moot. As the Examiner will note, independent claim 1 has been amended.

Independent claim 1 now recites a combination of elements including "a substrate, the substrate having a groove" and "the polymer waveguide having a rib received by the groove". Support for the above combination of elements can be found in FIG. 4 as originally filed.

Independent claims 5 and 10 recite a combination of steps including "forming a polymer film on the surface of the polymer waveguide", "coating a photoresist layer on the surface of the

polymer film”, “forming a periodic exposure structure on the photoresist layer using the interference of two laser beams”, “removing part of the photoresist layer to form a stripe photoresist pattern” and “etching the polymer film to form the micro grating”.

Applicants respectfully submit that the above combinations of elements and steps as set forth in amended independent claims 1 and original independent claims 5 and 10 are not disclosed nor suggested by the references relied on by the Examiner.

Claim 1

Oh discloses tunable wavelength filter, including a substrate 7, a polymer waveguide 3 (core layer 5 + clad layer 6), and a Bragg grating 1 (see FIGs. 1A-C). As shown in FIGs. 1A-C of Oh, the substrate 7 does not have any groove to receive any rib of the polymer waveguide 3. Therefore, Oh fails to teach “a substrate, the substrate having a groove” and “the polymer waveguide having a rib received by the groove” as recited in amended claim 1.

Blomquist discloses a tunable fiber Bragg gratings (see FIGs. 1-4). However, Blomquist fails to teach any substrate and therefore fails to teach “a substrate, the substrate having a groove” and “the polymer waveguide having a rib received by the groove” as recited in amended claim 1.

Claims 5 and 10

The Examiner has correctly acknowledged that Oh and Blomquist fail to teach the steps of forming the tunable wavelength filter. Although the Examiner alleged that Nokonov and Xu cure the deficiencies of Oh and Blomquist, Applicants respectfully disagree.

Nokonov and Xu both teach forming the Bragg grating by etching the waveguide (see col. 5, lines 1-2 of Nokonov and paragraph 0279 of Xu). However, Nokonov and Xu fail to teach forming the Bragg grating by etching a polymer film on and independent of the polymer waveguide to form the micro grating. Therefore, Nokonov and Xu still fail to teach “forming a polymer film on the surface of the polymer waveguide”, “coating a photoresist layer on the surface of the polymer film”, “forming a periodic exposure structure on the photoresist layer using the interference of two laser beams”, “removing part of the photoresist layer to form a stripe photoresist pattern” and “etching the polymer film to form the micro grating” as recited in claims 5 and 10.

Accordingly, none of the references utilized by the Examiner individually or in combination teach or suggest the limitations of independent claims 1, 5 and 10 or their dependent claims. Therefore, Applicants respectfully submit that independent claims 1, 5 and 10 and their dependent claims clearly define over the teachings of the references relied on by the Examiner.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

Additional Claims

Additional claims 13 and 14 have been added for the Examiner's consideration.

Dependent claims 13 and 14 recite “forming a groove on a substrate, wherein the step of providing the polymer waveguide includes forming the polymer waveguide with a rib received by the groove of the substrate”. As mentioned, Oh and Blomquist fail to teach any polymer waveguide having a rib received by the groove of the substrate. Nokonov and Xu also fail to

teach these features. Therefore, none of the references utilized by the Examiner individually or in combination teach or suggest the above recitation of claims 13 and 14.

Favorable consideration and allowance of additional claims 13 and 14 are respectfully requested.

CONCLUSION

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but merely to show the state of the prior art, no further comments are necessary with respect thereto.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Joe McKinney Muncy, Registration No. 32,334 at (703) 205-8000 in the Washington, D.C. area.

Application No. 10/826,284
Amendment dated January 4, 2006
Reply to Office Action of October 4, 2005

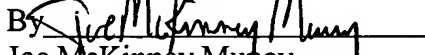
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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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